**K-5 Math Lesson Plan**

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| **Teacher:** Seagraves | | | | **Grade:** 3rd | | | | **Date(s)**: August 28, 2012 |
| **Unit Title:** Unit 1**-**Place Value with Addition and Subtraction within 1,000 | | | | | **Corresponding Unit Task:** Taught prior to Performance Task 1; ***This lesson will mainly focus on place value.*** | | | |
| **Essential Question(s):** How does place value understanding help me add and subtract numbers? What strategies can I use to add and subtract multi-digit numbers? Why do I need to know multiple strategies to add and subtract numbers? | | | | | | | | |
| **Materials/Resources** | | | | | **Essential Vocabulary** | | | |
| **Teacher:**  -Class Place Value Chart (labeled ones, tens, hundreds)  -500 cubes placed in a large bucket  -Pics of large amount of legos, full piggy bank, puzzle pieces  -zip lock bags (10) | | | **Student:**  -11-19 cubes out of class bucket  -Recording sheet/math journal | | | place value, hundred(s)-flats, ten(s)-rods, one(s)-units, value,  *\*See vocabulary strategies listed in Unit 1* | | |
| **Learning Experience** | | | | | | | | |
| **8 Mathematical Practices:**  **√** 1. Make sense of problems and persevere in solving them.  **√** 2. Reason abstractly and quantitatively.  **√** 3. Construct viable arguments and critique the reasoning of others.  **√** 4. Model with mathematics.  **√** 5. Use appropriate tools strategically.  **√** 6. Attend to precision.  **√** 7. Look for and make use of structure.  **√** 8. Look for and express regularity in repeated reasoning. | **Common Core State Standards:**  **3.NBT.1** Use place value understanding to round whole numbers to the nearest 10 or 100. | | | | | | | |
| **I Can Statement(s):**  -I can use base-ten blocks appropriately.  -I can represent whole numbers using base-ten blocks.  -I can locate place value within whole numbers.  -I can determine the value of a digit in a whole number. | | | | | | | |
| **Activating Strategy/Hook:** (How will students become cognitively engaged and focused?)  Teacher will explain that there are a lot of times that children need to be able to count large amounts. Show pictures of legos, a full piggy bank, and puzzle pieces. Allow students as a group to come up with one additional example of when they would need to count large amounts. Have each group share their example. | | | | | | | |
| **Teacher Directed:**  Teacher models thinking aloud for all of the following examples:  Hold up a flat. *What is the value of one flat?* (100)-where would I put  certain digits in the place value chart?  Hold up 2 flats. *If one flat has the value of 100,*  *what is the value of 2 flats?* (200)-where would I put  certain digits in the place value chart?  Hold up 4 flats. *What is the value of 4 flats?* (400)-where would I put  certain digits in the place value chart?  *Do you notice any patterns?*  *What would be the value of 10 flats?* (1,000) *How do you know?*-where would I put  certain digits in the place value chart?    Have students share their reasoning of how they knew the value of 10 flats.  \*Repeat using rods—teacher models thinking aloud.  Ask questions that encourage students to make connections with the flat(s). (10 rods = 1 flat)  \*Repeat using units—teacher models thinking aloud  Ask questions that encourage students to make connections with the rod(s) and the flat(s). (10 units = 1 rod; 100 units = 1 flat) Hold up an index card with the number 317 and model creating that number with the place value blocks. Can I write this number in more than one way? | | | | | | | |
| **Guided Practice:**  (As a group have 500 cubes in a large bucket. Don’t disclose to students how many are in the bucket).  When would be a time you’d have to take a guess how many objects are in a container? I have a bucket with cubes. How many do you think are in the bucket? Allow students to guess and record their amounts on the board.  Teacher explains if we wanted to count these quickly, what are the strategies we would use? Accept answers from students such as skip counting and different groupings of numbers. Allow students to agree/disagree with each other and make connections to their own explanations and ideas. (designate two hand motions for agree and disagree)  Divide out cubes to individual students (give between 11-19 cubes). Through guided teacher questioning, let students discover counting by groups of ten instead of by ones. (use hundreds board as visual if necessary) The teacher selects a few students to share the number of blocks they have-- put it in the class place chart. The teacher can review certain places and values of numbers.  Table groups of 4-5 will group their cubes to make groups of hundred. (let students discover to group by 100) while they are discussing they can use their hand motions for agree and disagree with each other when presenting ideas on the best way to group their cubes as a table. If someone agrees/disagrees, encourage explanations of why they agree/disagree. After students discover to group in 100 they add their group of 100 to a ziplock bag. Extra ones that do not group into 100, leave out of the bag.  The teacher selects one group to share the number they came up with and put it in the place chart. The teacher can review certain places and values of numbers. The class then switches to whole group to figure out how best to combine cubes to make additional groups of tens and hundreds. They can use the hand motions again to agree or disagree with the suggestions. encourage explanations of why they agree/disagree. The class will then come up with a total. The teacher selects one group to share the number they came up with and put it in the place chart. The teacher can review certain places and values of numbers. Compare the exact answer to the estimates. | | | | | | | |
| **Independent Practice:**  Students will be given a number on an index card -815. In the math journal or separate sheet of paper, students will draw the place value blocks of the number given. (allow base-ten blocks to be available to build then draw) They will draw a picture, write the number in the place value chart, underline any digit of their choice and tell the place and the value, explain in words what/how you did what you did—specify writing numbers in words. Students can then have the option of creating their own 2 or 3 digit number and repeating the process. | | | | | | | |
| **Closing/Summarizing Strategy:**  Reflect back on the specific EQs from the unit that were addressed in this lesson.  How does place value help me understand whole numbers?  How can I use place value to determine the value of a number? *Explain.*  When we were talking about these different pictures (show pictures of crayons, beads, or baseball cards.) how would I better come up with a more accurate estimate than I did at the beginning of math today?  Show grouped cubes in one bucket. (500). Show them a same size bucket. If we have 500 in here and we had another 500 in this bucket….we would have 1,000! (Students need to have a general idea of how much 1,000 is for Task 1. Talk about the relationship between 500 and 1,000 (half) | | | | | | | |
| **Differentiation Strategies** | | | | | | | | |
| **Extension** | | **Intervention** | | | | | **Language Development** | |
| * Give students a four-digit number on the index card * Teacher would select an students who have already mastered the skills practiced in the guided practice portion: They would walk around and estimate how many cubes a certain group has and then how many cubes are in the whole group. | | * Provide students with 2 digit numbers on index cards instead of 3 digit * Give students less place value blocks to ensure lower values | | | | | * Use a Place Value Mat when sorting base-10 blocks * Label words on the three column chart on the index card * Label pictures used * Provide students with separate word bank to be glued in math journal complete with words and pictures | |
| **Assessment(s):**  -Teacher should collect the math journal work or separate paper from each student  -Reflect upon written notes from teacher observations and questioning (specific student responses-understandings and misconceptions) | | | | | | | | |
| **Teacher Reflection:** (Next steps?)   * What went well? * Student understandings/misconceptions * Specific notes about students’ thinking * What do I need to reteach/review tomorrow or in the future? * New ideas or changes for next time | | | | | | | | |